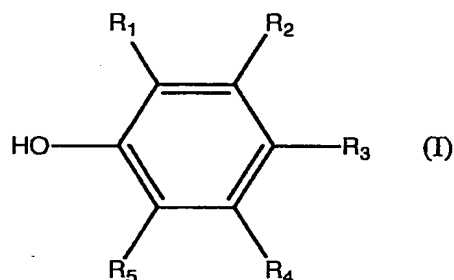


Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-34. (Canceled)

35. (Currently Amended) A clathrate compound prepared by a method of reacting an organic compound with a phenol derivative represented by Formula (I)



wherein:

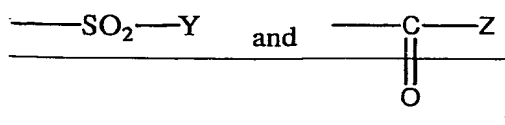
R₁ and R₃ are independently selected from -SO₂-Y and -CO-Z;

R₂, R₄, and R₅ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, -SO₂-Y, and -CO-Z;

Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

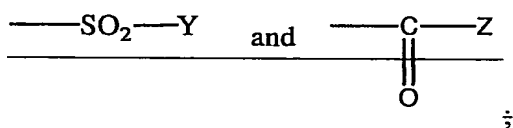
~~R₁ and R₅ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,~~



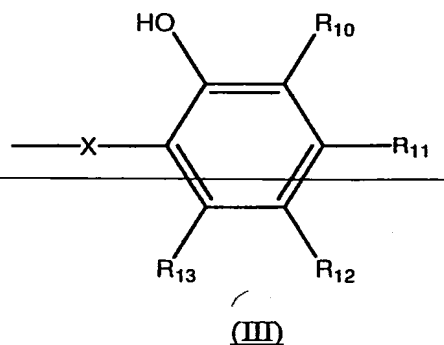
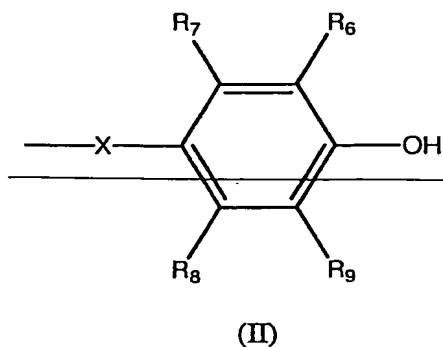
~~Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl and substituted aralkyl;~~

~~Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl and substituted aralkyl;~~

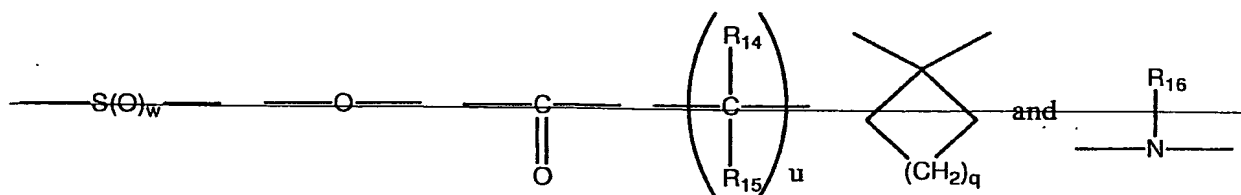
~~R₂ and R₄ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, and hydroxyl, or, when R₁, R₃ or R₅ is alkoxy having 1 to 4 carbons or hydroxyl, R₂ and R₄ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,~~



~~R₃ is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, Formula (II), Formula (III), SO₂ Y, and C(=O) Z,~~



—X is selected from the group consisting of



—w is 0, 1 or 2;

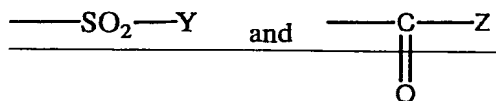
—u is 0 or 1;

—q is 0 to 4;

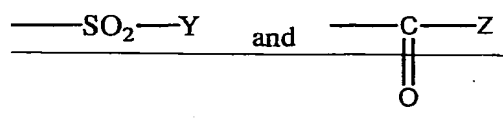
—R₁₄ and R₁₅ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl and optionally substituted aralkyl;

—R₁₆ is selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl and substituted aralkyl;

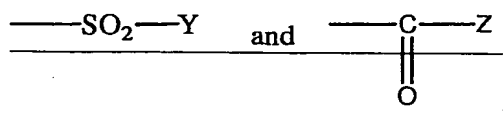
—R₆, R₉ and R₁₀ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



—R₇, R₈, R₁₁, and R₁₃ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, and alkoxy having 1 to 4 carbons and hydroxyl, but when R₁₂ is alkoxy having 1 to 4 carbons or hydroxyl, R₁₁ is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,

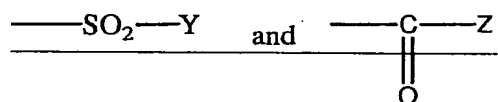


~~R₁₂ is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,~~

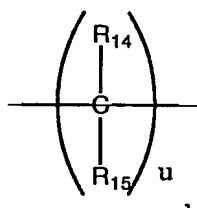


~~provided that:~~

~~when R₃ is of Formula (II), one of R₁, R₅, R₆, and R₉ is selected from the group consisting of~~

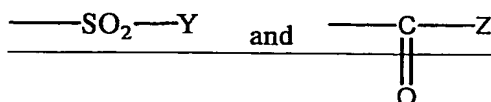


~~in which, when X is~~

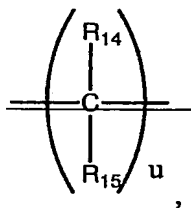


~~at least one of R₁, R₂, R₄, R₅, R₆, R₇, R₈, and R₉ is SO₂Y, and~~

~~when R₃ is of Formula (III), at least one of R₁, R₅, and R₁₀ is selected from the group consisting of~~



~~in which, when X is~~



at least one of $\text{R}_1, \text{R}_2, \text{R}_4, \text{R}_5, \text{R}_{10}, \text{R}_{11}, \text{R}_{12}$, and R_{13} is SO_2Y , and

when R_3 is selected from a group other than the group consisting of Formula (II) and (III), either of R_4 or R_5 is SO_2Y ;

the organic compound is selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants and vulcanization accelerators, and

the organic compound is selected from the group consisting of:

methanol, ethanol, isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol, and 4-chlorophenyl-3-iodopropargyl formal;

formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha -bromocinnamaldehyde, and phenylacetaldehyde;

ketones;

acetonitrile, acrylonitrile, n-butylnitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile, and 1,2-dibromo-2,4-dicyanobutane;

diethyl ether, dibutyl ether, tetrahydrofuran, dioxane, tetrahydropyran, dioxolane, and trioxane;

methyl acetate, ethyl acetate, butyl acetate, n-heptyl acetate, and bis-1,4-bromoacetoxy-2-butene;

benzene sulfone amide;

N-methyl formamide, N,N-dimethyl formamide, dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide, and N,N-diethyl-m-toluamide;

dichloromethane, chloroform, dichloroethylene, and tetrachloroethylene;

morpholine;

phenol, cresol, resorcinol, and p-chloro-m-cresol;

carboxylic acids and thiocarboxylic acids;

sulfaminic acid;

thiocarbamic acid;

thiosemicarbazide;

urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea, and N,N-dimethyldichlorophenylurea;

isothiurea;

sulfonylurea;

thiophenol, allyl mercaptan, n-butyl mercaptan, and benzyl mercaptan;

benzyl sulfide and butyl methyl sulfide;

dibutyl disulfide, dibenzyl disulfide, and tetramethylthiuram disulfide;

dimethyl sulfoxide, dibutyl sulfoxide, and dibenzyl sulfoxide;

dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone, and diiodomethylparatolyl sulfone;

benzene, toluene, and xylene;

butyl isocyanate, cyclohexyl isocyanate, and phenyl isocyanate;

methylene bithiocyanate and methylene bisisothiocyanate;

tris(hydroxymethyl)nitromethane;

ammonia, methylamine, ethylamine, propylamine, butylamine,

pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine,

ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-

pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine,

tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-

dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine,

trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine,

guanidine, and N-(2-hydroxypropyl)amino methanol;

cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane,

pyrrolidine, azetidine, and piperidine;

piperadine, N-aminoethylpiperadine, N,N'-dimethylpiperadine, and

pyrroline;

aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-

phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone, and

m-xylenediamine;

imidazoles;

pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole,

triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole,

imidazoline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline,

quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole,

2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-

methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide,

hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-

methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-

(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-

methoxycarbonylbenzimidazole, and 2,4,6-trichlorophenylmaleimide;

_____ furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene, and benzodioxane;

_____ oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine, and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine;

_____ thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chloro-4-phenyl-1,2-dithiolan-3-one, and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide;

_____ thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole, and 2-thiocyanomethylbenzothiazole; and

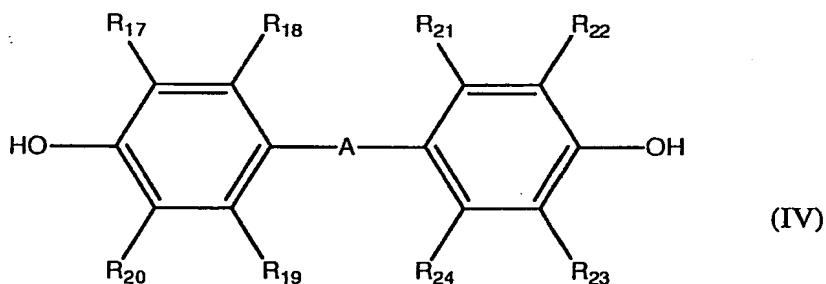
_____ 1,3-dimethyl-2-imidazolidinone;

~~alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids and thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas and thioureas, isothiureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids and isothiocyanic acids, amino acids, amides and urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates and isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, vitamins; and~~

wherein:

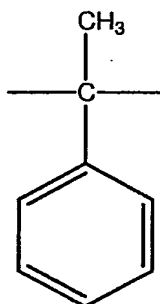
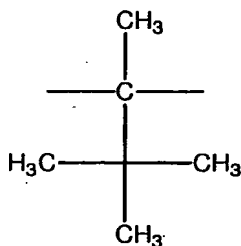
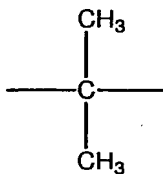
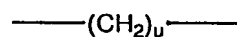
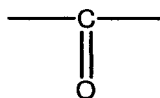
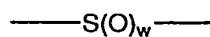
the organic compound and phenol derivative ~~being~~are reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host compound and the organic compound being a guest compound; and the host and guest compounds are non-covalently bonded to each other, and when the host and guest compounds are not bonded to each other, they are able to exist stably on their own.

36. (Currently Amended) A clathrate compound prepared by a method of reacting an organic compound with a phenol derivative represented by Formula (IV):

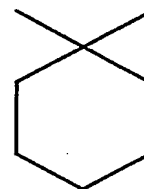


wherein

A is selected from the group consisting of:



and



w is 0, 1 or 2;

u is 0 or 1;

R₁₇ and R₂₂ are independently selected from -SO₂-Y and -CO-Z;

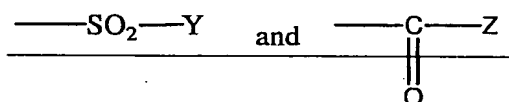
R₁₈-R₂₁, R₂₃, and R₂₄ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, -SO₂-Y, and -CO-Z;

Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

~~R₁₈, R₁₉, R₂₁ and R₂₄ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons and alkenyl having 2 to 4 carbons;~~

~~R₁₇ is selected from the group consisting of:~~



~~Y and Z are selected from the group consisting of:~~

~~alkyl having 1 to 6 carbons,~~

~~alkenyl having 2 to 6 carbons,~~

~~cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,~~

~~cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,~~

~~phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,~~

~~_____benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,~~

~~_____phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,~~

~~_____α-methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and~~

~~_____naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and~~

~~_____R₂₀, R₂₂, and R₂₃ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, SO₂-Y, and C(=O)-Z;~~

~~_____when A is (CH₂)_n, at least one of R₁₇, R₂₀, R₂₂ and R₂₃ is SO₂-Y;~~

~~_____the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants and vulcanization accelerators, and~~

the organic compound is selected from the group consisting of:

methanol, ethanol, isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol, and 4-chlorophenyl-3-iodopropargyl formal;

formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha -bromocinnamaldehyde, and phenylacetaldehyde;

ketones;

acetonitrile, acrylonitrile, n-butylnitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile, and 1,2-dibromo-2,4-dicyanobutane;

diethyl ether, dibutyl ether, tetrahydrofuran, dioxane, tetrahydropyran, dioxolane, and trioxane;

methyl acetate, ethyl acetate, butyl acetate, n-heptyl acetate, and bis-1,4-bromoacetoxy-2-butene;

benzene sulfone amide;

N-methyl formamide, N,N-dimethyl formamide, dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide, and N,N-diethyl-m-toluamide;

dichloromethane, chloroform, dichloroethylene, and tetrachloroethylene;

morpholine;

phenol, cresol, resorcinol, and p-chloro-m-cresol;

carboxylic acids and thiocarboxylic acids;

sulfaminic acid;

thiocarbamic acid;

thiosemicarbazide;

urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea, and N,N-dimethyldichlorophenylurea;

isothiurea;

sulfonylurea;

thiophenol, allyl mercaptan, n-butyl mercaptan, and benzyl mercaptan;

benzyl sulfide and butyl methyl sulfide;

dibutyl disulfide, dibenzyl disulfide, and tetramethylthiuram disulfide;

dimethyl sulfoxide, dibutyl sulfoxide, and dibenzyl sulfoxide;

dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone,
hexabromodimethyl sulfone, and diiodomethylparatolyl sulfone;

benzene, toluene, and xylene;

butyl isocyanate, cyclohexyl isocyanate, and phenyl isocyanate;

methylene bithiocyanate and methylene bisisothiocyanate;

tris(hydroxymethyl)nitromethane;

ammonia, methylamine, ethylamine, propylamine, butylamine,
pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine,
ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-
pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine,
tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-
dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine,
trimethylhexamethylenediamine, alkyl-t-monoamine, menthānediamine, isophoronediamine,
guanidine, and N-(2-hydroxypropyl)amino methanol;

cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane,
pyrrolidine, azetidine, piperidine;

piperadine, N-aminoethylpiperadine, N,N'-dimethylpiperadine, and
pyrroline;

aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-
phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone, and
m-xylenediamine;

imidazoles;

pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole, and 2,4,6-trichlorophenylmaleimide;

furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene, and benzodioxane;

oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine, and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine;

thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chloro-4-phenyl-1,2-dithiolan-3-one, and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide;

thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole, and 2-thiocyanomethylbenzothiazole; and

1,3-dimethyl-2-imidazolidinone;
~~alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids and thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas and thioureas, isothiouras, sulfonylureas, thiols, sulfides,~~

~~disulfides, sulfoxides, sulfones, thiocyanic acids and isothiocyanic acids, amino acids, amides and urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates and isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, vitamins;~~

wherein:

the organic compound and phenol derivative ~~being~~ are reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host compound and the organic compound being a guest compound; and

the host and guest compounds are non-covalently bonded to each other, and when the host and guest compounds are not bonded to each other, they are able to exist stably on their own.

37-38. (Canceled)

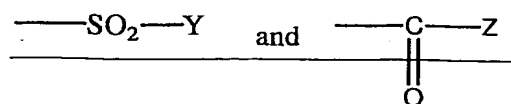
39. (Currently Amended) The clathrate compound according to any one of claims 35 ~~and 36 to 38~~, wherein the clathrate compound is a crystalline clathrate compound.

40. (Currently Amended) The clathrate compound according to claim 35, wherein

R₁ and R₃ are -SO₂-Y;

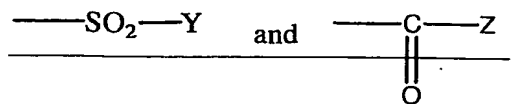
Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl.

~~R₁ and R₅ are independently selected from the group consisting of: halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,~~



41. (Currently Amended) The clathrate compound according to ~~claim 35~~ claim 36, wherein A is -SO₂.

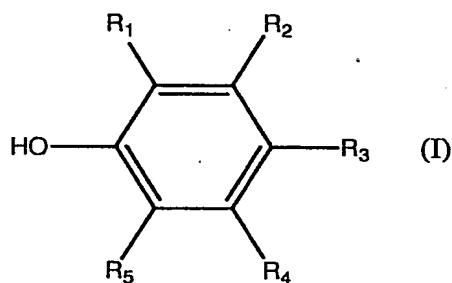
~~R₁ and R₅ are independently are selected from~~



42. (Withdrawn-Currently Amended) A method for producing a clathrate compound, comprising:

reacting a phenol derivative with an organic compound under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host; wherein:

the phenol derivative is represented by Formula (I):



wherein:

R₁ and R₃ are independently selected from -SO₂-Y and -CO-Z;

R₂, R₄, and R₅ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, -SO₂-Y, and -CO-Z;

Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

the organic compound is selected from the group consisting of:

methanol, ethanol, isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol, and 4-chlorophenyl-3-iodopropargyl formal;

formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha -bromocynnamaldehyde, and phenylacetaldehyde;

ketones;

acetonitrile, acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile, and 1,2-dibromo-2,4-dicyanobutane;

diethyl ether, dibutyl ether, tetrahydrofuran, dioxane, tetrahydropyran, dioxolane, and trioxane;

methyl acetate, ethyl acetate, butyl acetate, n-heptyl acetate, and bis-1,4-bromoacetoxy-2-butene;

benzene sulfone amide;

N-methyl formamide, N,N-dimethyl formamide, dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide, and N,N-diethyl-m-toluamide;

dichloromethane, chloroform, dichloroethylene, and tetrachloroethylene;
morpholine;

phenol, cresol, resorcinol, and p-chloro-m-cresol;

carboxylic acids and thiocarboxylic acids;

sulfaminic acid;

thiocarbamic acid;

thiosemicarbazide;

urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea, and N,N-dimethyldichlorophenylurea;

isothiourea;

sulfonylurea;

thiophenol, allyl mercaptan, n-butyl mercaptan, and benzyl mercaptan;

benzyl sulfide and butyl methyl sulfide;

dibutyl disulfide, dibenzyl disulfide, and tetramethylthiuram disulfide;

dimethyl sulfoxide, dibutyl sulfoxide, and dibenzyl sulfoxide;

dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone, and diiodomethylparatolyl sulfone;

benzene, toluene, and xylene;

butyl isocyanate, cyclohexyl isocyanate, and phenyl isocyanate;

methylene bithiocyanate and methylene bisisothiocyanate;

tris(hydroxymethyl)nitromethane;

ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N,N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine, and N-(2-hydroxypropyl)amino methanol;

cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidine, azetidine, and piperidine;

piperadine, N-aminoethylpiperadine, N,N'-dimethylpiperadine, and pyrroline;

aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone, and m-xylenediamine;

imidazoles;

pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-

(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole, and 2,4,6-trichlorophenylmaleimide;

furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene, and benzodioxane;

oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine, and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine;

thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chloro-4-phenyl-1,2-dithiolan-3-one, and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide;

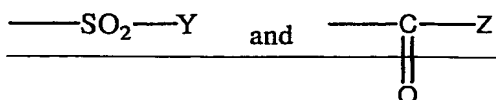
thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole, and 2-thiocyanomethylbenzothiazole; and

1,3-dimethyl-2-imidazolidinone; and

the organic compound and phenol derivative are reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host compound and the organic compound being a guest compound; and

the host and guest compounds are non-covalently bonded to each other, and when the host and guest compounds are not bonded to each other, they are able to exist stably on their own.

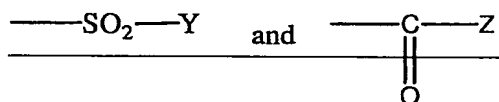
R₁ and R₅ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,



~~_____ Y is selected from the group consisting of: alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;~~

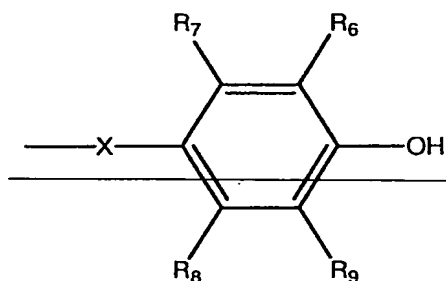
~~_____ Z is selected from the group consisting of: alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;~~

~~_____ R₂ and R₄ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, and hydroxyl, or, when R₁, R₃, or R₅ is alkoxy having 1 to 4 carbons or hydroxyl, R₂ and R₄ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,~~

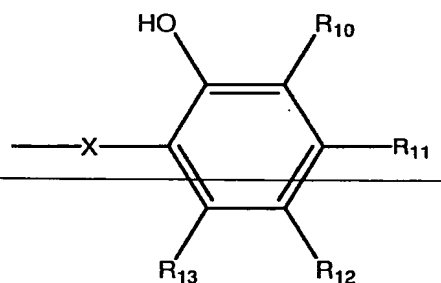


;

~~_____ R₃ is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, Formula (II), Formula (III), SO₂---Y, and C(=O)---Z,~~



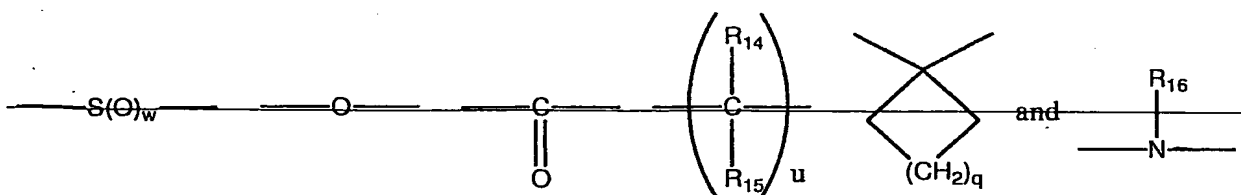
(II)



(III)

;

~~_____ X is selected from the group consisting of:~~



~~w is 0, 1, or 2;~~

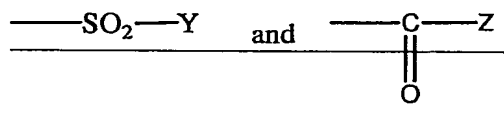
~~u is 0 or 1;~~

q is 0 to 4;

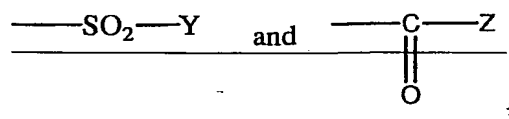
~~R₁₄ and R₁₅ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl, and optionally substituted aralkyl;~~

~~R₁₆ is selected from the group consisting of: hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl, and substituted aralkyl;~~

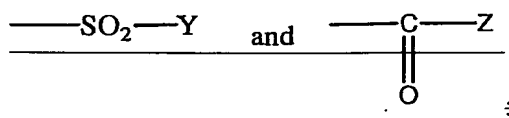
~~R₆, R₉, and R₁₀ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,~~



~~_____ R₇, R₈, R₁₁, and R₁₃ are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, and alkoxy having 1 to 4 carbons and hydroxyl, but when R₁₂ is alkoxy having 1 to 4 carbons or hydroxyl, R₁₄ is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,~~

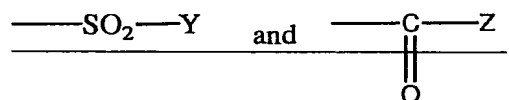


~~R₁₂ is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,~~

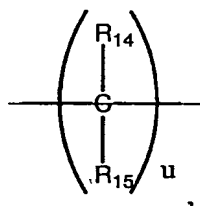


~~provided that:~~

~~when R₃ is of Formula (II), one of R₁, R₅, R₆, and R₉ is selected from the group consisting of:~~

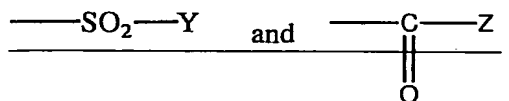


~~in which, when X is~~

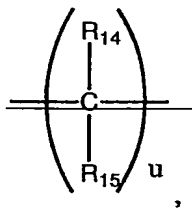


~~at least one of R₁, R₂, R₄, R₅, R₆, R₇, R₈, and R₉ is SO₂---Y, and~~

~~when R₃ is of Formula (III), at least one of R₁, R₅, and R₁₀ is selected from the group consisting of:~~



~~in which, when X is~~



at least one of R_1 , R_2 , R_4 , R_5 , R_{10} , R_{11} , R_{12} , and R_{13} is SO_2Y , and

when R_3 is selected from a group other than the group consisting of: Formula (II)

and (III), either of R_1 or R_5 is SO_2Y ;

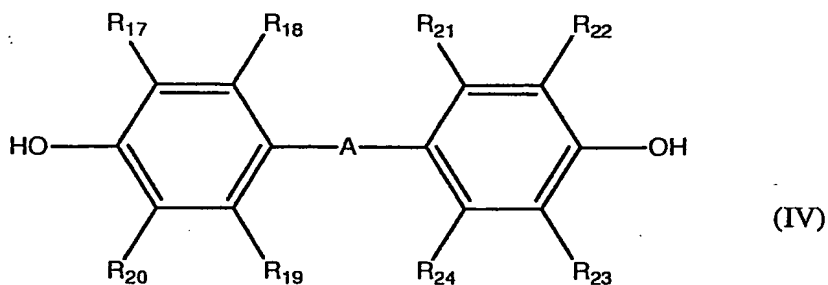
the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators, and

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothiureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins

43. (Withdrawn-Currently Amended) A method for producing a clathrate compound, comprising:

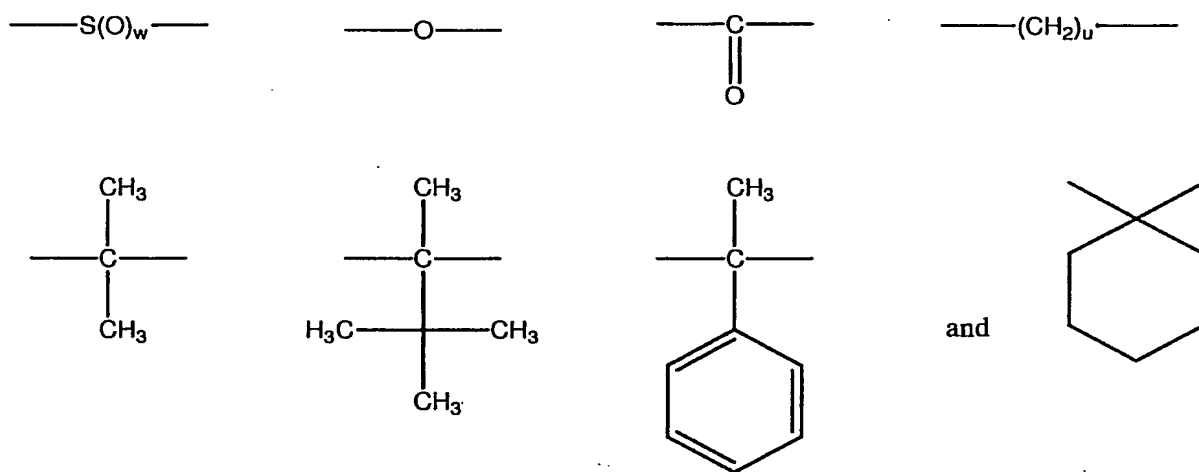
reacting a phenol derivative with an organic compound under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host; wherein:

the phenol derivative is represented by Formula (IV):



wherein:

A is selected from the group consisting of:



w is 0, 1, or 2;

u is 0 or 1;

R₁₇ and R₂₂ are independently selected from -SO₂-Y and -CO-Z;

R₁₈-R₂₁, R₂₃, and R₂₄ are independently selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, -SO₂-Y, and -CO-Z;

Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

the organic compound is selected from the group consisting of:

methanol, ethanol, isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol, and 4-chlorophenyl-3-iodopropargyl formal;

formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha -bromocynnamaldehyde, and phenylacetaldehyde;

ketones;

acetonitrile, acrylonitrile, n-butylnitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile, and 1,2-dibromo-2,4-dicyanobutane;

diethyl ether, dibutyl ether, tetrahydrofuran, dioxane, tetrahydropyran, dioxolane, and trioxane;

methyl acetate, ethyl acetate, butyl acetate, n-heptyl acetate, and bis-1,4-bromoacetoxy-2-butene;

benzene sulfone amide;

N-methyl formamide, N,N-dimethyl formamide, dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide, and N,N-diethyl-m-toluamide;

dichloromethane, chloroform, dichloroethylene, and tetrachloroethylene;

morpholine;

phenol, cresol, resorcinol, and p-chloro-m-cresol;

carboxylic acids and thiocarboxylic acids;

sulfaminic acid;

thiocarbamic acid;

thiosemicarbazide;

urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea, and N,N-dimethyldichlorophenylurea;

isothiurea;

sulfonylurea;

thiophenol, allyl mercaptan, n-butyl mercaptan, and benzyl mercaptan;

benzyl sulfide and butyl methyl sulfide;

dibutyl disulfide, dibenzyl disulfide, and tetramethylthiuram disulfide;

dimethyl sulfoxide, dibutyl sulfoxide, and dibenzyl sulfoxide;

dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone, and diiodomethylparatolyl sulfone;

benzene, toluene, and xylene;

butyl isocyanate, cyclohexyl isocyanate, and phenyl isocyanate;

methylene bithiocyanate and methylene bisisothiocyanate;

tris(hydroxymethyl)nitromethane;

ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N,N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine, and N-(2-hydroxypropyl)amino methanol;

cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidine, azetidine, piperidine;

piperadine, N-aminoethylpiperadine, N,N'-dimethylpiperadine, and pyrroline;

aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone, and m-xylenediamine;

imidazoles;

pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-

(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole, and 2,4,6-trichlorophenylmaleimide;

furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene, and benzodioxane;

oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine, and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine;

thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chloro-4-phenyl-1,2-dithiolan-3-one, and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide;

thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole, and 2-thiocyanomethylbenzothiazole; and

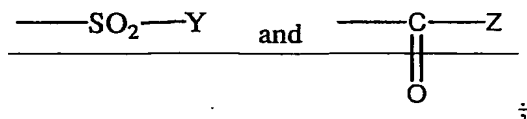
1,3-dimethyl-2-imidazolidinone;

the organic compound and phenol derivative are reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host compound and the organic compound being a guest compound; and

the host and guest compounds are non-covalently bonded to each other, and when the host and guest compounds are not bonded to each other, they are able to exist stably on their own.

R_{18} , R_{19} , R_{21} and R_{24} are independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons and alkenyl having 2 to 4 carbons;

R_{17} is selected from the group consisting of:



Y and Z are selected from the group consisting of:

alkyl having 1 to 6 carbons;

alkenyl having 2 to 6 carbons;

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen;

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;

α -methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen; and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;

R_{20} , R_{22} , and R_{23} are independently selected from the group consisting of:

hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, $\text{SO}_2\text{---Y}$, and C(=O)---Z ; when A is $(\text{CH}_2)_n$, at least one of R_{17} , R_{20} , R_{22} and R_{23} is $\text{SO}_2\text{---Y}$; and

~~the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators, and~~

~~the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothiouras, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins.~~

44-45. (Canceled)

46. (New) The clathrate compound according to claim 41, wherein

R_{17} and R_{22} are $-\text{SO}_2-\text{Y}$; and

Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl.

47. (New) The clathrate compound according to claim 35 or 36, wherein the organic compound is selected from the group consisting of:

acetone, methyl ethyl ketone, diethyl ketone, dibutyl ketone, methyl isobutyl ketone, cyclohexanone, acetyl acetone, and 2-bromo-4'-hydroxyacetophenone;

diethyl ether, dibutyl ether, tetrahydrofuran, dioxane, tetrahydropyran, dioxolane, and trioxane;

N-methyl formamide, N,N-dimethyl formamide, dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide, and N,N-diethyl-m-toluamide;

formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid, and salicylic acid;

dimethyl sulfoxide, dibutyl sulfoxide, and dibenzyl sulfoxide;

imidazoles;

pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole, and 2,4,6-trichlorophenylmaleimide;

thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; and

1,3-dimethyl-2-imidazolidinone.

48. (New) The clathrate compound according to claim 47, wherein the organic compound is selected from the group consisting of imidazoles, thiazole, benzothiazole, 5-chloro-

2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole, and 2-thiocyanomethylbenzothiazole.

49. (New) The clathrate compound according to claim 48, wherein the imidazoles are imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole, or 1-benzyl-2-methylimidazole.